

OPEN MEETING

MEMORANDUM

TO: THE COMMISSION

FROM: Utilities Division

DATE: June 14, 2022

RE: IN THE MATTER OF THE APPLICATION OF TUCSON ELECTRIC POWER COMPANY FOR APPROVAL OF ITS DISTRIBUTED GENERATION INTERCONNECTION MANUAL. (DOCKET NO. E-01933A-20-0116)

INTRODUCTION

Enclosed are the Commission Staff's memorandum and proposed order in the Matter of the Application of Tucson Electric Power Company for Approval of its Distributed Generation Interconnection Manual (Docket No. E-01933A-20-0116). This is only a Staff recommendation to the Commission; it has not yet become an order of the Commission. The Commission can decide to accept, amend, or reject Staff's proposed order.

You may file comments to the recommendation(s) of the proposed order by efilings at <https://efiling.azcc.gov/> or filing an original and the appropriate number of copies in accordance with the Filing Requirements available at <http://azcc.gov/hearing/docket-control-center-filing-requirements>, with the Commission's Docket Control on or before: **June 24, 2022**.

This matter may be scheduled for Commission deliberation at its Open Meetings scheduled **June 28, 2022, and June 29, 2022**.

If you have any questions about this matter, please contact Luke Hutchison of our Staff at (602) 542-4382, or Elijah Abinah, Director, at (602) 542-6935.

BACKGROUND

Arizona Administrative Code ("A.A.C.") R14-2-2628(A) states:

No later than 90 calendar days after the effective date of this Article, each Utility shall file with Docket Control, for Commission review and approval, an Interconnection Manual that:

1. Contains detailed technical, safety, and protection requirements necessary to interconnect a Generating Facility to the Distribution System in compliance with this Article and Good Utility Practice; and

2. Specifies by date, either within its main text or in an appendix, the version of each standard, code, or guideline with which an Applicant's Generating Facility must comply to be eligible for Interconnection and Parallel Operation.

In Decision No. 78496, dated March 2, 2022, the Arizona Corporation Commission ("Commission") approved Tucson Electric Power Company's ("TEP") Interconnection Manual ("Manual") with modifications. The Commission ordered TEP to facilitate the utilization of Meter Socket Adaptors ("MSA"). Additionally, the Commission ordered TEP to develop a list of approved MSAs, file an annual report in the docket summarizing how many adaptors were deployed in its service territory during the previous calendar year, and file an application containing the results of the MSA trial program within 90 days of the program concluding.

In addition, Decision No. 78496, required revision to the manual to better comply with the spirit, intent, and text of the rules. The Commission also directed TEP to submit a revised Manual that includes the specific changes identified below within 30 days of the Decision. Specifically,

1. The Manual should be revised to better preserve the Super Fast Track and Fast Track designations recognized in the Rules. TEP is directed to pay attention to systems that qualify for these faster review tracks as well as Inadvertent Export and Non-Exporting systems to remove restrictions and burdens from these systems.
2. The Manual should be revised to require TEP to address concerns over high deposit requirements and a lack of adequate documentation to support charges to customers for utility-supplied interconnection equipment.
3. The Manual should be revised to not prematurely require inverters to comply with Institute of Electrical and Electronics Engineers ("IEEE") sections that are not yet developed or of which equipment is not yet capable of compliance.
4. The Manual should be revised to modify TEP's requirements around transfer trip infrastructure, so as to not be overly burdensome, thereby saving hundreds of thousands of dollars for large installations such as those going onto schools.

On March 11, 2022, Staff met with AriSEIA to discuss its February 4, 2022, filing.

On March 17, 2022, Staff met with TEP to discuss AriSEIA's February 4, 2022, filing.

On April 4, 2022, pursuant to Decision No. 78496, TEP filed a revised Manual.

On April 21, 2022, Staff met with TEP and AriSEIA to discuss TEP's revised Manual.

On May 12, 2022, TEP filed an additional revised Manual. This filing included both a redlined and clean version of the Manual, intended to highlight revisions based off discussions and feedback from AriSEIA and Staff.

On May 23, 2022, Staff met with TEP to discuss feedback from AriSEIA regarding specific sections of the revised Manual filing made on May 12, 2022.

On May 25, 2022, based on additional feedback received from AriSEIA, TEP then filed another revised Manual.

STAFF ANALYSIS AND RECOMMENDATIONS

In Decision No. 78496, the Commission ordered TEP to amend its Revised Manual to facilitate the utilization of MSAs. During Staff's meeting with TEP on March 17, 2022, Staff provided suggestions to better align the text of the Manual with the Commission's Decision. TEP's revised Manual contains language detailing use of MSAs for generating facilities.

The Decision also ordered TEP to revise its Manual to better preserve the Super Fast Track and Fast Track designations recognized in the Rules. In addition, TEP was directed to pay attention to systems that qualify for these faster review tracks, as well as Inadvertent Export and Non-Exporting systems, and remove restrictions and burdens from them. TEP's revised Manual contains updated language to clarify various requirements that do not apply to the systems listed above.

The Commission ordered TEP to revise its Manual to address concerns over high deposit requirements and a lack of adequate documentation to support charges to customers for utility-supplied interconnection equipment. TEP's revised Manual includes an additional section clarifying the study fees customers are responsible for prior to beginning any study.

Decision No. 78496 ordered TEP's revised Manual to not prematurely require inverters to comply with the IEEE sections that are not yet developed or of which equipment is not yet capable of compliance. The revised Manual contains notes clarifying that inverter functions detailed in IEEE 1547-2018, that have not yet been incorporated by the manufacturers will not be required.

TEP was also directed to modify its requirements around transfer trip infrastructure, so as to not be overly burdensome, thereby reducing cost for large installations. The revised Manual has clarified the requirements for transfer trip infrastructure and noted that the necessary equipment shall be determined by the Facilities Study. In addition, TEP has removed several hardware requirements for specific types of generating facilities.

Decision No. 78496 ordered TEP to approve extensions on interconnection agreements that may be cancelled if the customer can demonstrate that permits have been acquired, equipment has been purchased, construction has commenced, or any additional funds in reliance on the interconnection agreement have been spent. TEP's revised Manual includes an additional section that provides a list of scenarios meriting an extension of time if the customer is able to demonstrate that any of the listed scenarios have occurred.

TEP's revised Manual contains 16 sections and three appendices and is organized as follows: (1) Introduction, (2) Scope, (3) Applicability, (4) Definitions, (5) Applicable Standards,

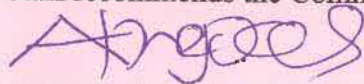
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(6) Generator Facility Parallel Operations Modes, (7) Generator Types and Size Classes, (8) Application Review Requirements, (9) Interconnection Technical Requirements, (10) Dangerous Goods Metering Requirements, (11) Advanced Grid Support Features, (12) Testing and Start-up Requirements, (13) Operating and Maintenance Requirements, (14), Requirements for Momentary Parallel Closed Transition Switching of Backup Generators, (15) Interconnection Studies and Drawing Review, (16) Other Considerations, (Appendix A) Application Process Flow Charts, (Appendix B) Sample Single-Phase Solar PV Interconnection Diagrams, and (Appendix C) Energy Storage Configuration Diagrams.

Staff has reviewed TEP's revised Manual and concludes it satisfies the requirements contained in the Commission's Interconnection Rules and complies with Decision No. 78496. Staff recommends the Commission approve TEP's revised Manual, filed on May 25, 2022.



Elijah O. Abinah
Director
Utilities Division

EOA:LH:ihfSJE

ORIGINATOR: Luke Hutchison

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On this 14th day of June, 2022, the foregoing document was filed with Docket Control as a Utilities Division Memorandum & Proposed Order, and copies of the foregoing were mailed on behalf of the Utilities Division to the following who have not consented to email service. On this date or as soon as possible thereafter, the Commission's eDocket program will automatically email a link to the foregoing to the following who have consented to email service.

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Administrative Support Specialist

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BEFORE THE ARIZONA CORPORATION COMMISSION

LEA MÁRQUEZ PETERSON
Chairwoman
SANDRA D. KENNEDY
Commissioner
JUSTIN OLSON
Commissioner
ANNA TOVAR
Commissioner
JIM O'CONNOR
Commissioner

IN THE MATTER OF THE APPLICATION
OF TUCSON ELECTRIC POWER
COMPANY FOR APPROVAL OF ITS
DISTRIBUTED GENERATION
INTERCONNECTION MANUAL.

DOCKET NO. E-01933A-20-0116
DECISION NO. _____
ORDER

Open Meeting
June 28 and June 29, 2022
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

Background

1. Arizona Administrative Code ("A.A.C.") R14-2-2628(A) states:

No later than 90 calendar days after the effective date of this Article, each Utility shall file with Docket Control, for Commission review and approval, an Interconnection Manual that:
 - i. Contains detailed technical, safety, and protection requirements necessary to interconnect a Generating Facility to the Distribution System in compliance with this Article and Good Utility Practice; and
 - ii. Specifies by date, either within its main text or in an appendix, the version of each standard, code, or guideline with which an Applicant's Generating Facility must comply to be eligible for Interconnection and Parallel Operation.
2. In Decision No. 78496, dated March 2, 2022, the Arizona Corporation Commission ("Commission") approved Tucson Electric Power Company's ("TEP") Interconnection Manual ("Manual") with modifications. The Commission ordered TEP to facilitate the utilization of Meter

1 Socket Adaptors ("MSA"). Additionally, the Commission ordered TEP to develop a list of approved
2 MSAs, file an annual report in the docket summarizing how many adaptors were deployed in its
3 service territory during the previous calendar year, and file an application containing the results of
4 the MSA trial program within 90 days of the program concluding.

5 3. In addition, Decision No. 78496, required revision to the manual to better comply
6 with the spirit, intent, and text of the rules. The Commission also directed TEP to submit a revised
7 Manual that includes the specific changes identified below within 30 days of the Decision.
8 Specifically,

- 9 i. The Manual should be revised to better preserve the Super Fast Track and
10 Fast Track designations recognized in the Rules. TEP is directed to pay
11 attention to systems that qualify for these faster review tracks as well as
12 Inadvertent Export and Non-Exporting systems to remove restrictions and
13 burdens from these systems.
- 14 ii. The Manual should be revised to require TEP to address concerns over high
15 deposit requirements and a lack of adequate documentation to support charges
16 to customers for utility-supplied interconnection equipment.
- 17 iii. The Manual should be revised to not prematurely require inverters to comply
18 with the Institute of Electrical and Electronics Engineers IEEE sections that
19 are not yet developed or of which equipment is not yet capable of compliance.
- 20 iv. The Manual should be revised to modify TEP's requirements around transfer
21 trip infrastructure so as to not be overly burdensome, thereby saving hundreds
22 of thousands of dollars for large installations such as those going onto schools.

23 4. On March 11, 2022, Staff met with AriSEIA to discuss its February 4, 2022, filing.

24 5. On March 17, 2022, Staff met with TEP to discuss AriSEIA's February 4, 2022,
25 filing.

26 6. On April 4, 2022, pursuant to Decision No. 78496, TEP filed a revised Manual.

27 7. On April 21, 2022, Staff met with TEP and AriSEIA to discuss TEP's revised.

28 8. On May 12, 2022, TEP filed an additional revised Manual. This filing included both
a redlined and clean version of the Manual, intended to highlight revisions based off discussions and
feedback from AriSEIA and Staff.

9. On May 23, 2022, Staff met with TEP to discuss feedback from AriSEIA regarding
specific sections of the revised Manual filing made on May 12, 2022.

1 10. On May 25, 2022, based on additional feedback received from AriSEIA, TEP then
2 filed another revised Manual.

3 **Staff Analysis and Recommendations**

4 11. In Decision No. 78496, the Commission ordered TEP to amend its Revised Manual
5 to facilitate the utilization of MSAs. During Staff's meeting with TEP on March 17, 2022, Staff
6 provided suggestions to better align the text of the Manual with the Commission's Decision. TEP's
7 revised Manual contains language detailing use of MSAs for generating facilities.

8 12. The Decision also ordered TEP to revise its Manual to better preserve the Super Fast
9 Track and Fast Track designations recognized in the Rules. In addition, TEP was directed to pay
10 attention to systems that qualify for these faster review tracks, as well as Inadvertent Export and
11 Non-Exporting systems, and remove restrictions and burdens from them. TEP's revised Manual
12 contains updated language to clarify various requirements that do not apply to the systems listed
13 above.

14 13. The Commission ordered TEP to revise its Manual to address concerns over high
15 deposit requirements and a lack of adequate documentation to support charges to customers for
16 utility-supplied interconnection equipment. TEP's revised Manual includes an additional section
17 clarifying the study fees customers are responsible for prior to beginning any study.

18 14. Decision No. 78496 ordered TEP's revised Manual to not prematurely require
19 inverters to comply with the IEEE sections that are not yet developed or of which equipment is not
20 yet capable of compliance. The revised Manual contains notes clarifying that inverter functions
21 detailed in IEEE 1547-2018 that have not yet been incorporated by the manufacturers will not be
22 required.

23 15. TEP was also directed to modify its requirements around transfer trip infrastructure,
24 so as to not be overly burdensome, thereby reducing cost for large installations. The revised Manual
25 has clarified the requirements for transfer trip infrastructure and noted that the necessary equipment
26 shall be determined by the Facilities Study. In addition, TEP has removed several hardware
27 requirements for specific types of generating facilities.

28

1 16. Decision No. 78496 ordered TEP to approve extensions on interconnection
2 agreements that may be cancelled if the customer can demonstrate that permits have been acquired,
3 equipment has been purchased, construction has commenced, or any additional funds in reliance on
4 the interconnection agreement have been spent. TEP's revised Manual includes an additional
5 section that provides a list of scenarios meriting an extension of time if the customer is able to
6 demonstrate that any of the listed scenarios have occurred.

7 17. TEP's revised Manual contains 16 sections and three appendices and is organized as
8 follows: (1) Introduction, (2) Scope, (3) Applicability, (4) Definitions, (5) Applicable Standards, (6)
9 Generator Facility Parallel Operations Modes, (7) Generator Types and Size Classes, (8) Application
10 Review Requirements, (9) Interconnection Technical Requirements, (10) Dangerous Goods
11 Metering Requirements, (11) Advanced Grid Support Features, (12) Testing and Start-up
12 Requirements, (13) Operating and Maintenance Requirements, (14), Requirements for Momentary
13 Parallel Closed Transition Switching of Backup Generators, (15) Interconnection Studies and
14 Drawing Review, (16) Other Considerations, (Appendix A) Application Process Flow Charts,
15 (Appendix B) Sample Single-Phase Solar PV Interconnection Diagrams, and (Appendix C) Energy
16 Storage Configuration Diagrams.

17 18. Staff has reviewed TEP's revised Manual and concludes it satisfies the requirements
18 contained in the Commission's Interconnection Rules and complies with Decision No. 78496. Staff
19 recommends the Commission approve TEP's revised Manual, filed on May 25, 2022.

20 CONCLUSIONS OF LAW

21 1. Tucson Electric Power Company is a public service corporation within the meaning
22 of Article XV, Section 2 of the Arizona Constitution.

23 2. The Commission has jurisdiction over Tucson Electric Power Company and the
24 subject matter of the application.

25 3. The Commission, having reviewed the application and Staff's memorandum
26 concludes that it is in the public interest to approve Tucson Electric Power Company's Revised
27 Interconnection Manual filed pursuant to A.A.C. R14-2-2628(A).

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ORDER

IT IS THEREFORE ORDERED that Tucson Electric Power Company's Revised Interconnection Manual, filed on May 25, 2022, is approved.

IT IS FURTHER ORDERED that this Decision shall become effective immediately.

BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION

CHAIRWOMAN MÁRQUEZ PETERSON

COMMISSIONER KENNEDY

COMMISSIONER OLSON

COMMISSIONER TOVAR

COMMISSIONER O'CONNOR

IN WITNESS WHEREOF, I, MATTHEW J. NEUBERT,
Executive Director of the Arizona Corporation Commission,
have hereunto, set my hand and caused the official seal of this
Commission to be affixed at the Capitol, in the City of
Phoenix, this _____ day of _____, 2022.

MATTHEW J. NEUBERT
EXECUTIVE DIRECTOR

DISSENT: _____

DISSENT: _____

EOA:LH:ihf/SJE

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2 Docket No. E-01933A-20-0116

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